April 17, 2002

MODIS sensor Working Group (MsWG) Summary

Attendance: Farida Adimi, Stuart Biggar, Vincent Chiang, Roger Drake, Wayne Esaias, Bob Evans, Gene Feldman, Bruce Guenther, Chris Moeller, Vince Salomonson, Junqiang Sun, Gary Toller, Jack Xiong, Zhengming Wan, Joe Esposito

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Scheduled Items

Item 1 Aqua MODIS Status

Launch no earlier than 2 May 2002

Transported on 04-16-2002. The difficulty with mating was solved and Aqua is now in the process of mating with the launch vehicle.

Final aliveness test will be on 04-20-2002 followed by green tag/red tag inspection and final cleaning on 04-24-2002.

Item 2 Terra S/C Issue

Terra A-side SFE was off from 04-14-2002 15:00 GMT (2002104.1500) to 04-15-2002 23:36 GMT (2002105.2336) due to S/C formatter. The instrument was sending data in this period but no science.

Item 3 Terra MODIS

Current Status

JX) All delivered OBCs analyses were shown over the last two meetings. Data has still not arrived for the SD Calibration with NAD closed.

MSCN analysis (preliminary)

JX) MSCN is illustrated by B35. The PC bands B33-B36 get a large impact from MSCN. The MSCN occurs in 4-5 epochs (see charts sent from MCST). For days 2000049, before NAD opened, and 2000094 after NAD opened B35 D5 BB shows MS2 < MS1. The instrument was off two weeks between 2000219 and 2000232. The pattern changed and the MS effect reversed, MS2 > MS1. The pattern changed and MS switched, MS2 < MS1, after day 2000305 on Bside. The pattern changed on day 2002087 and again on 2002088 after NAD was opened. The MS effect changed on 2002087, MS2 > MS1, and remained thus on day 2002088.

The MSCN may cause MS banding on impacted bands (LWIR PC and PV). The effect is very small for the VIS and NIR ~ 0.1-0.2dn for B8. The change of MSCN can be seen with each formatter reset.

RD) Each time the formatter turns off/on there is a chance of changing the pattern.

JX) NAD pattern is different now than seen before. On a single granule which cover the change from NAD closed to NAD open there is a distinct step to the new pattern. The pattern is related to FPA. (RD) There were no other system level changes at the time of the NAD opening.

BG) The LWIR FPA is in 3 distinct segments on a single substrate.

JX) (In answer to Bob Evans) The VIS-NIR fractional change is ~ 0.1-0.2%. We have 4-5 epochs of pattern change.

Other features under investigation (NAD scanning, comparison of m1_closed and m1_open)

BE) Background: Miami is looking at the spectral gain change for different epochs. To a reasonable degree, the ocean product changes ~0.5% within an epoch. Cross-scan RMS ~ 5-10% (across time and detector get 2-4%). This is after cross scan corrections are made as a function of time and detector. There are cross scan, gain and MS corrections for the spectral bands.

JX) B8-B9 flattened after October. Absolute plots would give an indication of what is happening.

BE) (with WE) there is a 5-12% change for B10-B8 respectively. We still must deal with x-scan after corrections. The 4km global product we use works well. More work is needed.

JX) The charts show different trends for individual detectors.

WE) (answer to VS reprocessing question) We get to within 10% of MOBE. To get to the next level we must wait for next reprocessing.

BE) Images produced from collect-4 test data show very good results.

Around the Table

Participant: Chris Moeller – Working on the B26 coefficients for Aside2 (after Bside) data. There is more scatter on Aside2 than on Aside1 or Bside. This may be due to the electronic Xtalk being larger on Aside2.

JX) Aside1: Vdet/Itwk=110/226; Bside Vdet/Itwk=79/110; Aside2: Vdet/Itwk=79/190. The Vdet/Itwk changes should change the gain level but should not increase the scatter.

CM) I will send the new Aside2 coefficients for L1B ASAP.

Participant: Stuart Biggar – We are taking radiometers outside for measurements to determine which (Thuillier) data set we prefer to use in L1B.

JX) Please forward any results or preferences to MCST.

Participant: Zhengming Wan – Working on the differences between in-situ temperature and MODIS derived temperatures.

Participant: Vince Salomonson – What about Eprom testing.

RD) Parts supplied to GSFC. Checking whether lifetime testing was done on Eprom parts (mission life).